## REMARKS

Applicants' undersigned attorney thanks the Examiner for her comments. Applicants respectfully request reconsideration of this patent application, particularly in view of the above Amendment and the following remarks. Currently, Claims 1-39, 57, 58, 60, 61, and 63 are pending.

### Amendments to the Claims

Claims 1-39, 57, 58, 60, 61, and 63 have been examined with no claims being allowed. Applicants have amended Claims 1 and 21 to include language clarifying that the densification of the absorbent pad results in the high density and the recited thinness of the absorbent pad. Support for this Amendment is provided on page 27, lines 11-20, of the specification. No new matter has been added by this Amendment.

No additional fee is due for this Amendment because the number of independent claims remains unchanged and the total number of claims also remains unchanged.

### Claim Rejections - 35 U.S.C. §102

The rejection of Claims 1-11, 15-30, 34-36, 58, 60, 61, and 63 under 35 U.S.C. §102(b) as being anticipated by Laux et al. (U.S. Patent No. 5,827,259, hereinafter "Laux") is respectfully traversed, particularly in view of the above Amendment and the following remarks.

For a reference to anticipate a claim, the reference must disclose each and every element or limitation of the claim. Laux does not disclose each and every element or limitation of Applicants' independent Claims 1 or 21. Applicants' invention as recited in independent Claims 1 and 21 requires a single, ***densified*** layer of superabsorbent material and pulp fluff, wherein the densification or compaction of the absorbent pad results in a density greater than about 0.28 or 0.30 grams per cubic centimeter and a thickness in a range of between 0.5 and 3.0 millimeters, and the densified layer has an edge compression between about 2726 and about 3615 gm-cm of energy to 50% compression.

Laux fails to disclose ***any*** densification of an absorbent pad. Furthermore, Laux fails to disclose an absorbent pad that has been densified or compacted to a density greater than about 0.28 or 0.30 grams per cubic centimeter, and to a thickness in a range of between 0.5 and 3.0 millimeters. Laux also fails to disclose an absorbent pad having an edge compression between about 2726 and about 3615 gm-cm of energy to 50% compression.

The Examiner asserts that the absorbent pad 48 in Laux has a density greater than about 0.28 grams per cubic centimeter and a thickness of less than 5 mm. More specifically, Laux discloses a thickness of not more than about 0.6 cm (6 mm), or not more than about 0.53 cm (5.3 mm), or not more than about 0.5 cm (5 mm). The range of 6 mm or less, or 5 mm or less, is twice as large as Applicants' recited range of 0.5 to 3.0 mm. Furthermore, the range of thickness in Laux includes thicknesses that are twice as thick, or even up to more than 10 times as thick as Applicants' absorbent pad. That is not to say that Applicants' recited range of thickness falls outside of the range disclosed in Laux, but the wide range in Laux fails to indicate any ***densification*** of the absorbent pad.

As indicated in Laux, the density of the absorbent pad (i.e., the retention portion 48) can be calculated from its basis weight and thickness. The average composite basis weight of the absorbent pad 48 can be within the range of about 400-900 gsm. The absorbent pad 48 can be configured with a bulk thickness that is not more than about 0.6 cm (6 mm). At a basis weight of 400 gsm and a thickness of 6 mm, the density of the absorbent pad in Laux is only 0.07 grams per cubic centimeter. Even at its maximum basis weight of 900 gsm and at a thickness of 5 mm, the density of the absorbent pad in Laux is only 0.18 grams per cubic centimeter, which is still far below the density of Applicants' densified absorbent pad. Furthermore, as explained in the present application, **Applicants' absorbent pad leaves the forming chamber 28 at a low density, namely less than 0.1 grams per cubic centimeter, and must be densified (Page 27, lines 9-10). Thus, the densification of Applicants' absorbent pad is a deliberate process step that is performed during the pad-forming process.** The absorbent pad in Laux clearly

fails to disclose any densification that can increase the density from 0.1 grams per cubic centimeter to greater than about 0.28 or 0.30 grams per cubic centimeter.

Contrary to the Examiner's assertion, Laux does not disclose subjecting the absorbent pad 48 to any compression. The Examiner refers to the sentence: "The bulk thickness is determined under a restraining pressure of 0.2 psi (1.38 kPa)" in Column 20, lines 13-14, of Laux and suggests that this sentence demonstrates that the absorbent pad 48 is subjected to pressure and is therefore densified. However, this sentence merely describes how to ***measure bulk thickness***, and in no way implies that the absorbent pad 48 is densified. As would be obvious to a person skilled in the art, a restraining pressure of 0.2 psi is very light, which is a logical amount of pressure for placing on an absorbent pad in order to suppress any stray fibers extending from the pad without deforming the actual thickness of the pad. ***It would be completely illogical for the method of measuring thickness to include a step that alters the thickness that is being measured.***

In contrast, Applicants expressly state that the absorbent pad is subjected to high density compaction in order to achieve the thin, high capacity absorbent pad of the present invention (page 6, lines 6-7). The densification can be accomplished with a conventional compaction roll or with a heated nip. Humidification of the composite may improve densification and help provide lower edge compression or stiffness values. Use of an embossing pattern may also reduce stiffness. (Page 7, lines 11-16). Thus, Applicants' absorbent pad is purposely treated (i.e., through densification) to reduce the stiffness, which can be quantified in terms of edge compression.

As explained at page 4, line 21 – page 5, line 6, of the present application, it is difficult to achieve thin absorbent composites that also have sufficient absorbent capacity and flexibility. Applicants' claimed absorbent pad achieves this delicate balance of thinness, flexibility, and absorbent capacity.

Often when pads are densified to create high capacity in a thin form, the resulting pads are stiff. Laux discloses neither any densification (as required in Applicants' absorbent pad) nor any flexibility of the absorbent pad 48 (as also required in Applicants' absorbent pad).

Low density, high capacity pads that are flexible are generally thick and bulky. The absorbent pad 48 in Laux may have a low density and may be twice as thick or as much as 10 times as thick as Applicants' absorbent pad.

Applicants' absorbent pad is thin (between 0.5 and 3.0 mm), has sufficient absorbent capacity (between about 14 and 40 g/g), and is flexible (edge compression between about 2726 and about 3615 gm-cm of energy to 50% compression). These balanced properties are achieved through high levels of superabsorbent polymer (SAP) ***and high density compaction*** of the formed pads (page 13, lines 10-12).

Laux fails to disclose an absorbent pad that is thin, ***flexible***, and possesses sufficient absorbent capacity. Additionally, Laux fails to disclose an absorbent pad that is ***densified*** to achieve such thinness, flexibility, and absorbent capacity. More particularly, Laux fails to disclose any level of flexibility of the absorbent pad 48 or any densification of the absorbent pad 48. Thus, it is unlikely that a person skilled in the art would achieve Applicants' claimed densified, thin, flexible, absorbent pad through routine experimentation based on the teachings of Laux.

For at least the reasons presented above, Applicants respectfully submit that Claims 1 and 21 are not anticipated by Laux. Because Claims 2-11, 15-20, 58, and 60 depend from Claim 1, and Claims 22-30, 34-46, 61, and 63 depend from Claim 21, these claims are also not anticipated by Laux. Thus, Applicants respectfully request withdrawal of this rejection.

**Claim Rejections - 35 U.S.C. §103**

**A. Laux et al. in view of Coles**

The rejection of Claims 12-14 and 31-33 under 35 U.S.C. §103(a) as being unpatentable over Laux et al. (U.S. Patent No. 5,827,259, hereinafter "Laux") as applied to Claims 1 and 21 above, and further in view of Coles (U.S. Patent No. 5,722,967) is respectfully traversed.

As explained above, Laux fails to disclose or suggest a ***densified*** absorbent pad, particularly wherein the densification or compaction of the absorbent

pad results in a density greater than about 0.28 or 0.30 grams per cubic centimeter and a thickness in a range of between 0.5 and 3.0 millimeters, and further fails to disclose or suggest an absorbent pad having an edge compression between about 2726 and about 3615 gm-cm of energy to 50% compression. Laux also fails to disclose or suggest such an absorbent pad wherein the superabsorbent material has a gel strength of at least 0.65.

The term "gel strength" is used to refer to a different material property in Coles than in the present invention. Coles discloses a sanitary napkin that may include high gel strength absorbent gelling materials having an absorbent gel strength of more than 1.2 kPa after 5 minutes. Such absorbent gel strength, measured in kPa, is the measure of pressure or force against the gel, thus representing a mechanical modulus. In contrast, the ranges of absorbent gel strength disclosed in the present invention are determined by dividing 0.9 AUL capacity by centrifuge retention capacity (CRC), which is essentially a ratio of the amount of liquid, i.e., saline, that the SAP absorbed under no pressure versus the amount of liquid that the SAP absorbed under pressure. More particularly, the gel strength in the present invention involves an absorbency under load factor which is more related to in-use performance. Although the same term "gel strength" is used in both the present application and in Coles, these terms represent completely different measurements of material properties.

To establish a prima facie case of obviousness, the prior art references must disclose or suggest all the claim limitations. Neither Laux nor Coles, alone or in combination, discloses or suggests a densified absorbent pad having an edge compression between about 2726 and about 3615 gm-cm of energy to 50% compression, and including superabsorbent material having a gel strength of at least 0.65, wherein the gel strength is determined by dividing 0.9 AUL capacity by CRC.

For at least the reasons given above, Applicants respectfully submit that the teachings of Laux in view of Coles fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**B. Laux et al.**

The rejection of Claims 37-39 under 35 U.S.C. §103(a) as being unpatentable over Laux et al. as applied to Claim 21 above is respectfully traversed.

As explained above, Laux fails to disclose or suggest a ***densified*** absorbent pad, particularly wherein the densification or compaction of the absorbent pad results in a density greater than about 0.28 or 0.30 grams per cubic centimeter and a thickness in a range of between 0.5 and 3.0 millimeters, and further fails to disclose or suggest an absorbent pad having an edge compression between about 2726 and about 3615 gm-cm of energy to 50% compression. Laux further fails to disclose or suggest any range of concentration variation of a superabsorbent material gradient within such an absorbent pad.

Since Laux does not disclose or suggest a densified absorbent pad having an edge compression between about 2726 and about 3615 gm-cm of energy to 50% compression, Laux thus fails to disclose or suggest such an absorbent pad having any variation of concentration of superabsorbent material within a gradient in such an absorbent pad.

For at least the reasons given above, Applicants respectfully submit that the teachings of Laux fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**C. Laux et al. in view of Pieniak et al.**

The rejection of Claim 57 under 35 U.S.C. §103(a) as being unpatentable over Laux et al. as applied to Claim 1 above, and further in view of Pieniak et al. (U.S. Patent No. 5,451,442, hereinafter "Pieniak") is respectfully traversed.

As explained above, Laux fails to disclose or suggest a ***densified*** absorbent pad, particularly wherein the densification or compaction of the absorbent pad results in a density greater than about 0.28 or 0.30 grams per cubic centimeter and a thickness in a range of between 0.5 and 3.0 millimeters, and further fails to disclose or suggest an absorbent pad having an edge compression between about 2726 and about 3615 gm-cm of energy to 50% compression. Laux further fails to disclose or

suggest such an absorbent pad having a higher basis weight in a first zone than in a second zone.

Pieniak discloses an absorbent panel structure for a disposable garment that includes one or more longitudinally elongated areas or grooves of reduced thickness and basis weight formed in the panel. A rearward section of the panel has a mean basis weight that is less than the mean basis weight of the forward section of the panel.

Neither Laux nor Pieniak, alone in combination, discloses or suggests a densified absorbent pad having an edge compression between about 2726 and about 3615 gm-cm of energy to 50% compression, with a higher basis weight in a first zone than in a second zone.

For at least the reasons given above, Applicants respectfully submit that the teachings of Laux in view of Pieniak fail to disclose or suggest Applicants' claimed invention. Accordingly, reconsideration and withdrawal of this rejection is respectfully requested.

**Conclusion**

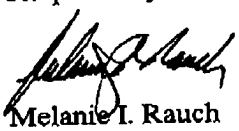
U.S. Patent No. 6,068,620 to Chmielewski, which the Examiner has indicated is made of record and not relied upon, also fails to disclose or suggest an absorbent pad having a single, densified layer with an edge compression between about 2726 and about 3615 gm-cm of energy to 50% compression.

Applicants intend to be fully responsive to the outstanding Office Action. If the Examiner detects any issue which the Examiner believes Applicants have not addressed in this response, Applicants' undersigned attorney requests a telephone interview with the Examiner.

Serial No. 09/939,061 Docket No.: KCC-16,208

Applicants sincerely believe that this Patent Application is now in condition for allowance and, thus, respectfully request early allowance.

Respectfully submitted,



Melanie I. Rauch
Registration No. 40,924

Pauley Petersen & Erickson
2800 West Higgins Road, Suite 365
Hoffman Estates, Illinois 60195
(847) 490-1400
FAX (847) 490-1403